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ABSTRACT

The development of leadership evaluation procedures has been impeded by the same obstacles that have slowed the development of soft skills systems engineering techniques. Problems include the difficulty of finding a "true expert", the general lack of clarity concerning ultimate criterion measures, and the fact that leadership skills are essentially disjunctive. The assessment center concept is discussed briefly as a possible prototype of future evaluation approaches. This paper outlines soft skills systems engineering, who the "true expert" is, the nature of the real world, measuring the impact of leadership training and development, ultimate criteria of measurement and a disjunctive approach for a disjunctive concept. (A sixteen item bibliography is included.) (KP)

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The Evaluation of Leadership Skills

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The Human Resources Research Organization (HumRRO) is a non-profit corporation established in 1969 to conduct research in the field of training and education. It is a continuation of The George Washington University Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral social science research, development, and consultation.

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Prefatory Note

This paper on leadership skills was presented at the CONARC Soft Skills Training Conference, sponsored by the U.S. Continental Army Command at the Air Defense School, Fort Bliss, Texas, on 12-13 December 1972. The purpose of the conference was to foster an extensive interchange among CONARC representatives and invited participants regarding approaches to the systems engineering of soft skills training.

Since joining the Human Resources Research Organization, Dr. Jacobs has specialized in leadership research and leadership training development. As Director of HumRRO Division No. 4 at Fort Benning, Georgia, he is presently responsible for direction of its research program in motivation, leadership, and both group and individual effectiveness.

The Evaluation of Leadership Skills

T.O. Jacobs

The primary purpose of this paper is to discuss some of the problems involved in the evaluation of leadership skills. However, it will not be possible to discuss evaluation of leadership skills without first considering the current state of the art in their identification and development.

SOFT SKILLS SYSTEMS ENGINEERING?

This frankly provocative title was selected to draw attention to the probable source of current problems in quality control of soft skills training. A basic problem, at least insofar as leadership is concerned, is that the systems engineering of leadership training is only beginning to emerge from the dark ages. As this paper will show, there is a substantial lack of agreement on at least the following points:

(1) What leadership is.
(2) What affects leadership in organizations.
(3) The training experience that will produce improved leadership.
(4) Satisfactory measures of leadership ability.

Difficulties have been encountered in the systems engineering of training. Crawford (1) has described seven steps in the development of training, as shown in Figure 1.

A case can be made that the major problem in soft skills systems engineering lies in the second step, analysis of the particular job. In his discussion of this step, Crawford says, "We are interested in the inputs to the job—the kind of stimuli and requirements placed on the individual—and the outputs from the job—what the man does to bring about system output." This, of course, is a reasonable assertion. The problem arises when one attempts to implement this step. While Crawford's paper is not intended to be a 'how-to-do-it," it is instructive to note that a rough count shows that only 91 words were allocated to describe this step.

It appears to the present writer that systems engineering of training implicitly assumes that a "true expert" is to be found somewhere, and that, once located, he will be able to specify his inputs and outputs. There may also be an assumption that there is a single correct way to do the soft skills job. In the remainder of this paper, all of these possible assumptions will be questioned.

WHO IS THE TRUE EXPERT?

Without desiring to be critical of an interesting and innovative beginning, it is instructive to search momentarily for a true expert. Whitmore (2), in discussing his concept of the job model, notes that "The identification and definition of job functions from system characteristics and the formulation of the behavioral processes underlying each function requires behavioral science expertise." This suggests the possibility that the

Steps in the Development of Training

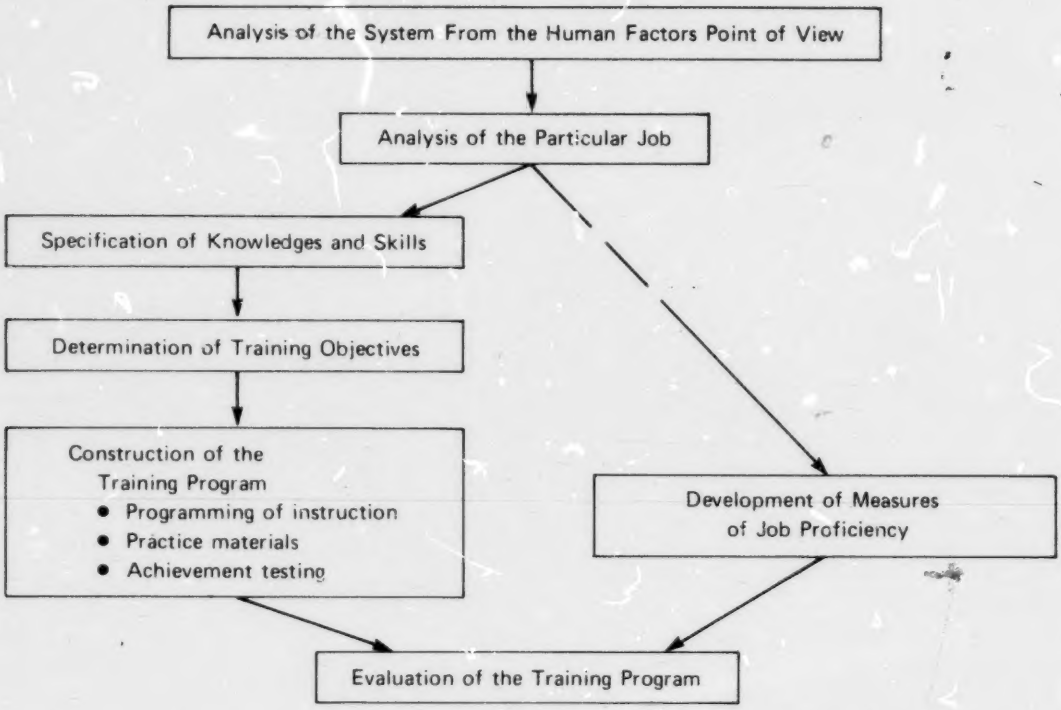
Analysis of the System From the Human Factors Point of View
Analysis of the Particular Job
Specification of Knowledges and Skills
Determination of Training Objectives
Construction of the Training Program
• Programming of instruction
• Practice materials
• Achievement testing
Development of Measures of Job Proficiency
Evaluation of the Training Program

Figure 1

behavioral scientist may be the "true expert," at least in this complex soft skills area. The validity of this assumption may be illustrated by a quick comparison of T-group protagonists and antagonists.

T-group (sensitivity) training is a fairly widely used form of training to which executives and leaders frequently are exposed in the belief that it will "develop" them. Bradford (3), as one protagonist, describes how sensitivity training works. He concludes that, while not all individuals profit equally from such training, most benefit to some extent and " . . . the majority of participants have learned and grown."

Adair (4), on the other hand, criticizes sensitivity training on four accounts:

(1) Such groups have no formal tasks, which means that they do not have the task and team maintenance responsibilities of real groups in formal organizations. Thus, the experience is dissimilar to the on-the-job conditions of performance, which should decrease transfer of training.

(2) Several assumptions underlying this approach probably are inaccurate. An example is the assumption that leadership functions should be distributed equally among the members of the group. Adair suggests the possibility that this may well not be true when there are real tasks which must be achieved under difficult situations.

(3) This approach as a universal method of leadership training is culture-bound. (It should be noted that this criticism is not valid if transer of training is planned only to the culture to which it is "bound.")

(4) There is a tendency for group psychotherapy to invade the training scene. With this invasion may come "preconceptions" which may not be appropriate for leaders of "normal" people.

The above attempt to pit two schools of thought against one another is, admittedly, somewhat unfair. Clearly, there would be points of agreement. However, the major point is that there clearly are differences in *objectives*, implied or explicit. That is, protagonists would identify one set of objectives for leader training and antagonists another set. The differences in objectives produce differences in the training approach taken. Further, the criteria that would be used to evaluate the effectiveness of the training would be different.

Clearly, the "true expert" may or may not be the behavioral scientist. Further, to the extent that he has theoretical biases, his degree of "expertness" may be compromised. And I believe that no one would assert that behavioral sciences are lacking in theoretical biases.

There is yet another reason why the behavioral scientist may not be the "true expert." Most behavioral scientists, as McGregor (5) points out, have never been required to perform in the role of a line executive. McGregor, without such experience, had believed that a leader could operate essentially as an organizational advisor, and that good human relations would be quite effective in relieving discord and disagreement. Experience demonstrated to him that a leader cannot avoid *the exercise of authority*. The leader cannot delegate the responsibility which he alone must assume for the workings of his organization.

This point has been made with trepidation, and with the anticipation of challenge. It is in fact correct that experience in the role is not necessary in order to be able to describe the role through rigorous observational techniques. So some behavioral scientists may be able to rise beyond inexperience to become "true experts." However, it is very difficult to observe intangibles. Leadership and executive skills are intangible. The necessary recourse, therefore, is to study experimentally the impact of variation in role behaviors on organizational outcomes.

It should be recognized that this is an extremely difficult proposition. Several questions immediately are raised, which bear not only on systems engineering but also on evaluation:

(1) What should be used as the criterion? Should it be evaluations by superiors? Should it be evaluations by subordinates? Should it be some rating or objective measure of organizational performance?

(2) What organization can be made available for experimental study? Real organizations exist in a world that usually is competitive. Only rarely are they available for experimental study. (And they also are hard to simulate.)

(3) How much time can be devoted to experimental study? The time required varies, depending on the object of the study. In a cross-sectional study, relatively little time is required. In a longitudinal study, months or perhaps even years may be required.

WHAT IS THE NATURE OF THE REAL WORLD?

Bruner (6) discusses two different kinds of concepts. The first, conjunctive concepts, consists of those in which the logic is essentially transitive. That is, if in Middletown only residents can vote, it is possible to infer by knowing that an individual has voted that he is a resident. Man-machine systems basically are conjunctive systems. The logic of man-machine interaction is a transitive logic.

The second type of concept is disjunctive, in which this kind of transitivity does not occur. For example, if in Middletown either residents, taxpayers, or persons who work within the city may vote, then it is not possible to infer the individual's category from knowing that he votes. It is very likely that most man-ascendant systems are

characterized by disjunctive logic, where several different solutions may work in any given problem situation. (This is recognized in the idiom by the statement that any solution, well implemented, is better than no solution.)

Of course, it is possible that organizational leadership is not actually disjunctive. It may only appear so because of the many variables that may affect the impact of any given leadership behavior or approach. Further, there may be moderator variables that actually change the relationship between a given leadership behavior and the expected outcome. (Fiedler's contingency model illustrates the use of moderator variables in leadership theory building.) Several studies illustrate these variables.

Organizational Climate. In a relatively well-known study, Fleishman (7) reported the effects of leadership training for foremen after the foremen had returned to their industrial situation. The leadership training itself consisted of a focus on initiating structure and showing consideration dimensions. Fleishman reported that the effects of the training appeared rather small when a later follow-up was made. The kind of supervisor (leadership climate) under which the foreman worked was more related to his own behavior than either training or lack of it. Foremen working under a considerate supervisor tended to express more considerate attitudes toward their workers, and received, in return, higher consideration scores from their workers.

Organizational Structure. Forehand and Gilmer (8) further analyzed the effect of organizational climate on leader behavior. They noted that climate may be determined not only by the leadership pattern of one's own supervisors, but also by size, organizational structure, systems complexity, and goals. Presumably, any of these factors could negate or enhance the impact of leadership training, or modify the relationship between given leadership behavior and system outcomes.

Nonlinear Relationships. A report of a seminar held by the Foundation for Research on Human Behavior (9) describes several of these non-linear relationships:

Production Pressure. When production pressure was low, an increase in pressure increased both satisfaction with supervisor and production, to a point, beyond which satisfaction dropped sharply.

Group Cohesiveness. Group cohesion is positively correlated with productivity when the company is perceived as supportive, but negatively correlated with productivity when the company is perceived as threatening. (This illustrates a moderator variable.)

Closeness of Supervision. Production can be high either way, but morale suffers with excessively close supervision, and a large investment of supervisor energy must be expended also.

Subordinate Expectations. Jasinski (10) reported an interesting study from the automobile industry, in which workers and foremen alike had proper and idealized descriptions of what the supervisor's role ought to be. However, in actual practice the foreman's behavior was very different from the verbal description of the ideal role. Further, Jasinski found that workers really *expected* a different type of behavior from the foreman than they said they wanted, and the work environment precluded the lengthy interaction between workers and foremen that would have been required by "desired" behavior. Finally, the supervisors of the foremen gave little weight to foreman relations with men in their evaluations of the foremen.

When leadership is taught and evaluated in a service school, the service school essentially is serving a customer. The customer is the commander in the field who uses the product generated by the school. It clearly is important to develop and evaluate the right thing. One further example of the cataclysmic results that may occur when the wrong thing is developed is found in a report by Sikes (11) of a course on human relations. This course was given to all managers and supervisors in a medium-sized

contracting firm. The evaluation tool was a questionnaire to supervisors. One question was, "Was the course as a whole a success or a failure"? The summary of answers was:

Success	0
Failure	83
No Opinion	14

These startling findings occurred because participants felt the course had not made any lasting improvement *in the attitudes of senior management*. However, the cataclysmic further result was a crisis in the conflict between expectations held by supervisors and by senior management concerning the role of management. This conflict led to resignations of 19 of the 97 supervisors who had attended the course. (In the two years preceding the course only two had left.) Further, 25 more were known to have applied for other jobs.

HOW TO MEASURE THE UNMEASURABLE?

At the outset, it was noted that ultimate criteria are rarely available for measuring the impact of leadership training and development. There are probably two reasons. The first is the difficulty of obtaining objective criterion measures in real organizations; realistically, this does present problems. The second difficulty is that it sometimes is embarrassing to the researcher to be able to obtain such criteria when they are available.

Korman (12) distinguishes two kinds of validity, concurrent and predictive. Concurrent validity is derived from measurements taken at the same time that measurements are made of the so-called leader manipulation. Predictive validity is derived from a longitudinal study, in which a leadership manipulation is made, and efforts are then made to determine whether individuals in the experimental group behave in different (hopefully better) ways on the job.

The embarrassing aspect of such criteria is that they frequently lead to the conclusion that no change has occurred, especially where the criteria consist of objective measures of organizational performance. It will be recalled that Fleishman's finding of no impact came from a longitudinal study. In his own review of the literature, Korman found quite similar results. His focus was on Initiating Structure and Showing Consideration as leadership behavior variables. Most of the studies reported concurrent validity, which Korman notes does not give good evidence of causality. Further, the objective criteria, when they were used, yielded low correlations with both Consideration and Initiating Structure. This is a finding that is, of course, repeated fairly frequently in other studies.

Korman's other results are interesting in their own right. Table 1 summarizes his review. It shows correlations between Initiating Structure and Showing Consideration variables, and a variety of other measures. In this table concurrent and predictive validity data have been mixed. As can be seen, there is substantial variability in the findings, regardless of what criterion is used. The only consistent findings appear to be correlations between subordinate ratings of leaders and Showing Consideration behavior. Korman concludes that his survey of the literature does not provide any reason for saying that these leader behavior variables can predict work group performance, or under what conditions they might affect work group performance, a somewhat dismal picture.

These findings represent only a marginal sampling from the available literature. However, they do nonetheless illustrate the extreme difficulty of determining what should be taught as leadership, how it should be taught, and how the effectiveness of the resulting skill should be evaluated.

Table 1

Correlations Between Various Criteria and Initiating Structure and Showing Consideration

With	Initiating Structure		Showing Consideration	
	N	Range	N	Range
Objective Measures	5	-.05 to .23	5	-.11 to .14
Superior Ratings	8	-.39 to .13	8	-.06 to .29
Peer Ratings	8	-.11 to .14	8	-.17 to .03
Self Ratings	3	-.41 to .45	3	-.02 to -.46
Subordinate Ratings	3	.05 to .22	3	.24 to .51

IF NOT ULTIMATE CRITERIA, THEN WHAT?

While so-called ultimate criteria may be available within organizational settings, they generally are not available to the trainer. This has led to a proliferation of intermediate criteria which have been used for assessment purposes. Some of the vehicles for leadership assessment have been:

Situational Performance Tests
Situational Paper-and-Pencil Tests
Personality Tests
Peer Ratings
Ratings by Seniors
Leadership Grades

This list is by no means inclusive. It is intended primarily to illustrate the diversity of approaches in current use.

Situational Tests. These tests generally depend for predictive validity on the similarity between the performance requirement (including group leadership and direction) of the test situation and that of the ultimate performance situation. However, situational tests have been plagued by many common psychometric problems, such as:

- The difficulty of establishing parallel situations, so that different leaders will be assessed under comparable conditions of performance.
- The difficulty of establishing situations which in fact present real life performance requirements at other than a face valid level.
- The cost in terms of time and administrative difficulty in running good situational tests.
- The difficulty of training assessors so that they respond to the same leader behaviors in the same way, or even observe the same leader behavior variables.
- The difficulty of providing subordinates who respond as subordinates would in real life. (In the test situation they are not subject to quite the same actual leader power as in a real unit.)

Situational Paper-and-Pencil Tests. An example is the In-Basket Test. A problem with this kind of test is that one of the most critical dimensions of leadership skill probably is interpersonal competence. The austere context of an In-Basket Test is hardly appropriate for assessing this kind of variable. Further, in the military setting, there may

be some degree of stress associated with the performance requirement, which is difficult to simulate in an in-basket or other similar test. Finally, it is impossible to assess group maintenance or individual support leader behavior skills in a "solo" performance.

Personality Tests. Typical of this approach, which is about three decades old, is the self-assessment test, which commonly takes the form of measuring the individual's proclivities toward authoritarian, democratic, or laissez-faire leadership. The fallacies of this approach are obvious.

Peer Ratings. While it is difficult to know exactly what peer ratings measure, they generally have had better predictive validity than almost any other single approach. This may be because they probably measure the dimension of interpersonal competence and the ability to work within a coordinated group better than do most other approaches. However, even so, peer ratings rarely account for more than 25% of the total variance in subsequent leadership performance, and are always subject to the vagaries of the peers who are completing them. If a group decides to do so, "cooperate and graduate" can be made to work extremely well. Nonetheless, peer ratings are a "method of choice," especially when used in conjunction with other measures.

Ratings by Seniors. It is very difficult to assess the extent to which ratings by seniors are predictive in an independent sense. That is, in a formal school setting, peer ratings and tactical officer ratings are found to be fairly highly correlated. However, ratings by tactical officers are generally less reliable than ratings by peers.

Leadership Grades. Finally, leadership grades have been developed from paper-and-pencil knowledge tests following leadership instruction. In unpublished research, HumRRO Division No. 4 has found them on occasion even to be negatively correlated with leadership grades obtained through a combination of peer ratings and tactical officer ratings. This suggests that they probably would not predict subsequent performance, in that peer ratings generally do.

A DISJUNCTIVE APPROACH FOR A DISJUNCTIVE CONCEPT

The picture to this point has been negative, and unfairly so. It was presented in this fashion to illustrate the difficulties in both soft skills systems engineering, and the evaluation of soft skills such as leadership. Soft skills systems engineering is extraordinarily difficult because of the absence of a "true expert," and because of the intangible nature of these skills. Because the evaluation process is necessarily dependent on identification of what is to be evaluated, the development of soft skill evaluation procedures has necessarily been impeded by the same problems.

However, an assertion may be made at this point. While it is extremely unlikely that any massive breakthrough is ever going to occur in soft skills systems engineering, approaches such as the behavioral model (Whitmore (2)) are conceptually sound, and will eventually produce a sound picture of what it is that needs to be trained. It will then become feasible to develop evaluation techniques. The requirement is for patience and continued effort, with the realization that this is simply a much more difficult problem than hard skills systems engineering.

As an example of possible future evaluation approaches, it is appropriate to examine the "scientific assessment center." Management assessment centers are becoming more frequent in industry, probably because, as Byham (13) asserts, they have shown themselves "... to be a more reliable indicator of future success than any other tool yet devised."

The assessment center works, probably, because it is so comprehensive in what it measures. (Critics might argue that if enough of an individual's behavior is observed,

probably it would be possible to make predictions to *any* future activity.) Byham identifies 25 "common dimensions" of managerial success:

Impact	Listening skill
Energy	Flexibility
Oral communciation skill	Tenacity
Oral presentation skill	Risk taking
Written communication skill	Initiative
Creativity	Independence
Range of interest	Planning and organizing
Stress tolerance	Management control
Motivation	Use of delegation
Work standards	Problem analysis
Leadership	Judgment
Salesmanship	Decisiveness
Sensitivity	

Byham also identifies eight techniques that may be used in an assessment center for evaluating individuals on these dimensions:

Interview
Management Games
In-Basket and Interview
Leaderless Group Discussion (Assigned)
Leaderless Group Discussion (Non-Assigned)
Fact Finding and Decision Making
Analysis Presentation
Interview Simulation

Some may be better than others for assessing one or more of the preceding dimensions. In the assessment center, the optimum measurement approach is selected for each measurement to be obtained.

According to Byham, psychologists are considerably superior to untrained line assessors in the assessment center context. However, they are not always available, so companies tend to establish pools of trained assessors. With either, the predictive validity of the assessment center is quite good. Bray, Grant, and Campbell (14) make an essentially similar point.

The difficulty with assessment centers is, of course, that they are expensive to operate, and have a low throughput of assessed potential leaders. Where management turnover is low, this is no problem. In the Army, with high input of junior leaders, it might create difficulties.

However, in the context of the present paper, the assessment center concept is probably worth examining as the prototype for soft skills evaluation procedures *development*. The assessment center "covers the waterfront." Similarly, it is probable that the evaluation of any soft skill will necessarily cover a multitude of dimensions. Single unitary measures probably will not suffice. (This suggests that leadership training also will need to cover a variety of dimensions.) Finally, it is likely that leadership evaluation procedures will gradually improve with experience and research, just as leadership development and training procedures improve through the same means. In each case, continued effort should provide increasingly improved payoffs.

As a final example of the inextricable intertwining of leadership research and leadership development, it is appropriate to examine a probable new direction in the assessment of organizational leadership. Students of small group theory will affirm that substantial progress in understanding of small group dynamics came only after researchers turned to the study of *processes* that occur in small groups. Examination of the

assessment dimensions just cited shows that they are essentially person-oriented. Thus. they are likely to be limited in their predictive power.

However, a few researchers have been turning to a study of organizational processes in order to understand organizational leadership more fully. This generally requires some sort of simulation of an organization, because real organizations cannot be "replayed." The capacity to repeat a standardized experience is, of course, necessary in order to develop a basis for inferential testing. As an example of this work, Olmstead (15) has developed a simulation of a battalion engaged in a counterinsurgency operation. The simulation is designed to permit measurement of organizational process variables identified by Schein (16) as the Adaptive Coping Cycle. These variables and their correlations with independent measures of the adequacy of mission accomplishment (Olmstead's simulation) are:

Sensing a change in the internal or external environment	.92
Communicating the information to a decision maker	.83
Making a decision with the information	.70
Stabilizing internal changes	.11
Communicating change decisions	.71
Coping actions	.72
Obtaining feedback as to decision effectiveness	.03

It is beyond the scope of the present paper to present Olmstead's findings in greater depth. The significant point is that organizational leadership possibly should be viewed as the capacity to cause certain crucially important functions to be performed well. This would have equally significant implications for assessment of leadership. The question would be, "Leadership for what?" And the assessment technique would be examination of the leader's capacity for making processes work well.

As a contrast, Olmstead also obtained data using many of the conventional paper-and-pencil measures, with miniscule results. In this simulation, the so-called "personality" measures used did not tap the capacity to make the process go smoothly. Also, they did not tap organizational effectiveness. The implications of these findings for assessment of leadership skills are profound.

SUMMARY

In this paper, it has been asserted that the development of leadership evaluation procedures has been impeded by the same obstacles that have slowed the development of soft skills systems engineering techniques. It is difficult to find a "true expert," and the incumbent is frequently unable to verbalize what he actually does because what he does is intangible. This means that knowledge must be developed through the arduous method of experimental study of leadership processes by researchers and other observers. However, the general unavailability of ultimate criteria of leadership effectiveness makes this a slower process than it otherwise might be.

The dearth of ultimate criteria has led to a proliferation of intermediate criteria. The researcher's own bias has often influenced the intermediate criteria he has chosen to study, and the hypotheses he has chosen to test. Researcher bias has also influenced the types of leadership processes he has chosen to study.

Despite the handicaps that shackle the researcher, among which is the fact that he rarely has been in the position of a line executive and thus does not know how it feels, the researcher probably is indispensable in the soft skills area, as Whitmore (2) has noted. This is not because of what he knows substantively. Indeed, he may be more dangerous because of his substantive knowledge. Rather, the researcher's value stems from his

training in scientific methodology and from the fact that he is, by virtue of that training, a highly qualified observer—providing that his own theoretical biases do not blind him.

It is probable that most soft skill areas are disjunctive in nature. This creates substantial difficulties for anyone attempting to do systems engineering work. However, substantial progress has been made in recent years in the development of knowledge about leadership, as an example of one soft skill. The assessment center concept was discussed briefly as a possible prototype of future evaluation approaches.

Although not identified specifically in the paper, there are needs that are worth citing:

(1) Continued research to define the substantive nature of the leadership phenomenon. Such research will continue to produce progress in the development of leadership training, and will permit parallel progress in the development of evaluation techniques.

(2) Continued search for intermediate criteria. This will require the availability of organizations for study, perhaps through simulation techniques such as those Olmstead (15) has used. Further, there is a need for enlightened decision makers who will tolerate other than face-valid measures for leadership assessment.

(3) Continued work to learn how to modify an individual to be more effective as a leader.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The paper discusses problems in the development of leadership evaluation methods, within the context of soft skills systems engineering itself. Problems include the difficulty of finding a "true expert," the general lack of clarity concerning ultimate criterion measures, and the fact that leadership skills are essentially disjunctive (as most other soft skills probably are). The paper agrees with Whitmore as to the value of the

(Continued)

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20. (Continued)

behavioral scientist in soft skills systems engineering, but also cautions against (a) theoretical biases that may lead to misdirected work, and (b) misconceptions due to lack of experience as a line executive. Either may be counterproductive.